



DraftFinal

Finding of Suitability to Transfer for Parcel G

Hunters Point Naval Shipyard San Francisco, California

October xxJune 17, 2014

Prepared for:

Department of the Navy Base Realignment and Closure Program Management Office West San Diego, California

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FIGURES

[HYPERLINK \1 "Fig1"]

[HYPERLINK \1 "Fig2"]

[HYPERLINK \1 "Fig3"]

[HYPERLINK \1 "Fig4"]

[HYPERLINK \1 "Fig5"]

TABLE

[HYPERLINK \1"Table_1"]APPENDICES

A[HYPERLINK \l "AppB"] Stored, Disposed of, or Released

[HYPERLINK \1 "AppC"]ACRONYMS AND ABBREVIATIONS

§ Section §§ Sections μg Microgram

ACM Asbestos-containing material

AOC Area of concern Arcadis U.S., Inc.

ARIC Area requiring institutional controls

AST Aboveground storage tank

BCT BRAC Cleanup Team

BEC BRAC Environmental Coordinator BRAC Base Realignment and Closure

BRRM Base Redevelopment and Realignment Manual

CERCLA Comprehensive Environmental Response, Compensation, and Liability Act

CFR Code of Federal Regulations

cm² Square centimeter COC Chemical of concern

CRUP Covenant to restrict use of property

cy Cubic yard

DERP Defense Environmental Restoration Program

DoD U.S. Department of Defense

DTSC Department of Toxic Substances Control

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ACRONYMS AND ABBREVIATIONS (CONTINUED)

EBS Environmental baseline survey

EPA U.S. Environmental Protection Agency

ERRG Engineering/Remediation Resources Group, Inc.

FAD Friable, accessible, and damaged FFA Federal Facility Agreement

FIFRA Federal Insecticide, Fungicide, and Rodenticide Act

FOST Finding of Suitability to Transfer

FWEC Foster Wheeler Environmental Corporation

HLA Harding Lawson Associates
HPNS Hunters Point Naval Shipyard
HRA Historical radiological assessment

IC Institutional control

IPE Industrial process equipment IR Installation Restoration

ITSI Innovative Technical Solutions, Inc.

LBP Lead-based paint

LLRW Low-level radioactive waste

NAVSEA Naval Sea Systems Command

Navy Department of the Navy

NEESA Naval Energy and Environmental Support Activity

NFA No further action

O&M Operation and maintenance

OCB Oil circuit breaker

PAH Polycyclic aromatic hydrocarbon

PCB Polychlorinated biphenyl PMO Program Management Office

ppm Part per million PWC Public Works Center

RACR Remedial action completion report

ROD Record of decision

Sealaska Sealaska Environmental Services, LLC SFRA San Francisco Redevelopment Agency

Shaw Environmental, Inc.

SI Site inspection
SVE Soil vapor extraction

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ACRONYMS AND ABBREVIATIONS (CONTINUED)

TCRA Time-critical removal action
TPH Total petroleum hydrocarbons
TSCA Toxic Substances Control Act

U.S.C. United States Code
UST Underground storage tank
VOC Volatile organic compound

Water Board California Regional Water Quality Control Board, San Francisco Bay Region

YEI YEI Engineers, Inc.
ZVI Zero-valent iron

1.0 PURPOSE

The purpose of this Finding of Suitability to Transfer (FOST) report is to summarize how the requirements and notifications for hazardous substances, petroleum products, and other regulated materials have been satisfied for Parcel G at Hunters Point Naval Shipyard (HPNS) ([HYPERLINK \\ "Fig1"]). [HYPERLINK \\ "Fig2"] shows the area covered by Parcel G (termed the "Property").

This FOST has been prepared in accordance with the Department of Defense (DoD) Base Redevelopment and Realignment Manual (BRRM) (DoD 2006) and the Navy Base Realignment and Closure (BRAC) Program Management Office (PMO) Policy for Processing Findings of Suitability to Transfer or Lease (Navy BRAC PMO 2008).

Throughout this report, *italic* text is used to indicate forward looking statements that identify actions that are not yet completed but are planned to be finished before this FOST is finalized. Italic text also designates published materials.

2.0 PROPERTY DESCRIPTION

HPNS is located in southeastern San Francisco on a peninsula that extends east into San Francisco Bay, California ([HYPERLINK \l "Fig1"]). A portion of HPNS has been conveyed out of federal ownership (former Parcel A). The remaining real property is currently divided into a total of 11 parcels, three of which are described as "utility corridors." Parcel G is the subject of this FOST ([HYPERLINK \l "Fig2"]). Historically, Parcel G was part of the industrial support area at HPNS and was used for shipping, ship repair, and office and commercial activities.

The Property includes about 40 acres in the central area of HPNS and is bounded by Parcels UC-1 and UC-2 to the north, Parcels C and D-1 to the east, Parcels D-1 and E to the south, and Parcels E and UC-1 to the west. The Property includes Installation Restoration (IR) Sites 9, 33, 34, 37, 44, 65, 66, 67, and 71. Portions of basewide IR Site 50 (storm drain and sanitary sewer lines), IR Site 51 (former transformer locations), and site inspection (SI) site SI-45 (steam lines) are also within the Property. The land surface at the Property is entirely paved or covered by structures and slopes gently from northwest to southeast toward the bay ([HYPERLINK \] "Fig3"]).

Future land uses. The original redevelopment plan developed by the former San Francisco Redevelopment Agency (SFRA) in 1997 divided HPNS into reuse areas (SFRA 1997). The reuse areas included residential, educational and cultural, maritime and industrial, mixed use, open space, and research and development uses. The former SFRA issued an amended reuse plan in 2010 that incorporated "land use districts" in the subdivision of HPNS (SFRA 2010). The Property is included in the Shipyard South Multi-Use District. Principal uses within this land use district include residential; institutional; retail sales and services; office and industrial; multi-media and digital arts; athletic and recreational facilities; and civic, arts, and entertainment uses (SFRA 2010). The 2010 reuse plan expanded potential reuse options at the Property to

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include residential use options. However, the plan did not introduce any new exposure scenarios that were not already taken into account by the record of decision (ROD) (Navy 2009).

Commented [TR1]: Why is this in the FOST for Parcel G but not the FOST for UC-1 and UC-2?

3.0 SUMMARY OF ENVIRONMENTAL CONDITIONS

HPNS was listed on the U.S. Environmental Protection Agency (EPA) National Priorities List under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) in 1989. The Defense Environmental Restoration Program (DERP), codified as 10 *United States Code* (U.S.C.) Sections (§§) 2701–2709, gave the DoD Environmental Restoration Program a statutory basis. The Navy implements the DERP subject to, and in a manner consistent with, CERCLA and its regulations (the National Oil and Hazardous Substances Pollution Contingency Plan at Title 40 of the *Code of Federal Regulations* [CFR] Part 300). In September 1990, EPA Region 9, the California Environmental Protection Agency Department of Toxic Substances Control (DTSC), the California Regional Water Quality Control Board, San Francisco Bay Region (Water Board) and the Navy signed a Federal Facility Agreement (FFA) (Navy 1990). EPA, DTSC, and the Water Board were notified of the initiation of this FOST. Regulatory agency comments to this FOST are provided in [HYPERLINK \ \ "AppB"] - (to be provided in draft final version). The Navy, EPA, DTSC, and the Water Board representatives are collectively referred to as the BRAC Cleanup Team (BCT) for HPNS.

This section summarizes how the applicable environmental requirements for CERCLA, including radiological and other regulated hazardous materials, have been fully addressed at the Property (presented in [HYPERLINK \lambda "Table 1"]).

Pursuant to CERCLA and Title 40 CFR Part 373, the deed for each parcel will contain, to the extent such information is available on the basis of a complete search of agency files, a notification of hazardous substances stored for 1 year or more or known to have been released or disposed of within the parcel. The information required to support thisese notifications is provided in [HYPERLINK \1 "AppA"]. The notifications will consist of the type and quantity of such hazardous substances; the time when storage, release, or disposal took place; and a description of the remedial or response action taken, if any.

3.1 COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT

Environmental inspections, assessments, and investigations were conducted beginning in 1983 to support closure, leasing, and transfer at HPNS. The Navy and the regulatory agencies signed a CERCLA record of decision (ROD) for Parcel G in 2009 (Navy 2009). The ROD addressed both soil and groundwater contaminated by CERCLA hazardous substances at Parcel G. The Navy and EPA jointly selected the remedy, which included excavation and off-site disposal of soil in selected areas followed by installation of durable covers across all of Parcel G as physical barriers to cut off potential exposure to soil. The remedy for soil also incorporated removal of two soil stockpiles and off-site disposal. The remedy selected for contaminated groundwater was active treatment by injection of zero-valent iron (ZVI) or a biological substrate to destroy volatile organic compounds (VOC) and treat hexavalent chromium in groundwater, followed by long-term monitoring. Refer

to the current work plan for the basewide groundwater monitoring program (CE2-Kleinfelder 2012b) for details of long-term groundwater monitoring at the Property. The remedy also included a soil vapor survey, institutional controls (IC), and cleanup of radiologically impacted soil and structures.

The chemicals of concern (COC) released in soil at the Property include metals; VOCs; semivolatile organic compounds, including pesticides, polychlorinated biphenyls (PCB), and polycyclic aromatic hydrocarbons (PAH); and total petroleum hydrocarbons (TPH). Radionuclides of concern at the Property include cesium-137, radium-226, and strontium-90. COCs in groundwater are primarily VOCs and selected metals. The main VOCs of concern include trichloroethene and tetrachloroethene and their degradation products, dichloroethene and vinyl chloride. Metals of concern in groundwater include hexavalent chromium and nickel. The primary risk to human health and the environment from the COCs and radionuclides is through direct contact with soil or groundwater, or inhalation of soil vapor from vapor intrusion into indoor air.

The following sections describe removal actions completed before the ROD was signed, remedial and removal actions completed in accordance with and after the ROD, and radiological concerns that have been addressed on the Property.

3.1.1 Pre-ROD Removal Actions

The Navy completed a group of removal actions at the Property before the ROD was signed in 2009. The following list provides a summary of the pre-ROD removal actions. The Property was formerly part of Parcel D, which was subdivided in 2008 to form Parcels D-1, D-2, G (the Property), and UC-1. Therefore, some of the descriptions also include removals for areas adjacent to the Property in former Parcel D.

- 1974 to 1998: Removal of PCB-bearing electrical equipment basewide.
 - 1974 to 1988: Removal and disposal off site of 199 transformers, including
 99 found to contain PCBs. Most transformers were removed in 1987 and
 1988 (YEI Engineers, Inc. [YEI] 1988).
 - 1996: Removal and disposal off site of 239 pieces of PCB-containing equipment (Public Works Center San Francisco Bay [PWCSFB] 1996).
- 1991 to 1995: Approximately 4,665 tons of sandblast grit was collected from
 areas across HPNS and consolidated at Parcel E. In addition, about 90 tons of
 sandblast grit was removed from IR Site 44 and reused off site in the manufacture
 of asphalt (Battelle 1996).
- 1994 to 1996: Contaminated equipment and residue were removed from IR Site 9, the pickling and plating yard. Approximately 200,000 pounds of hazardous waste liquids, 1,500 cubic yards (cy) of hazardous waste solids,

100,000 pounds of nonhazardous waste liquids, and 350,000 pounds of scrap metal were removed and disposed of off site (SulTech 2007).

- 1996: Approximately 1 cy of soil affected by a cesium-137 spill was removed from an area behind Building 364.
- 1996 to 1997: Removal actions were completed at exploratory excavations.
 About 350 cy of soil was removed from five areas (IT Corporation 1999).
- 1996 to 1997: More than 1,200 tons of sediment was removed from the storm drain system, including storm drains on the Property, and disposed of off site (IT Corporation 1997).
- 2001: About 63 cy of soil was removed from IR Sites 8, 9, 37, 53, 55, and 65.
 Steam lines saturated with oil were removed; other steam lines were pressuretested, cleaned, and left in place (Tetra Tech EM Inc. 2001).
- 2001 to 2002: Approximately 15 cy of soil affected by a cesium-137 spill was removed from IR Site 33 South.
- April 2002 to June 2003: Decontamination and waste consolidation were conducted, including encapsulating or removing asbestos-containing material (ACM); removing and disposing of structural materials, paint booths, and numerous abandoned waste items; removing and disposing of hoods, vents, and ducts associated with industrial processes; removing or disabling existing aboveground storage tanks (AST); and cleaning industrial process-related sumps, vaults, trenches, and equipment foundations (Foster Wheeler Environmental Corporation [FWEC] 2003). More than 27,500 pounds of material was removed and disposed of off site.
- February 2004: Nine soil and waste asphalt stockpiles were removed (Tetra Tech EM Inc. and Innovative Technical Solutions, Inc. [TTSI] 2005).

3.1.2 Post-ROD Remedial and Removal Actions

The following list summarizes activities conducted after the ROD was signed.

- July 2007 to June 2011: Radiological removal actions were completed at Parcel G. A total of 23,166 linear feet of sanitary sewer and storm drains and about 50,688 cy of soil were excavated; approximately 2,828 cy of soil was disposed of off site as low-level radioactive waste (LLRW) (Tetra Tech EC, Inc. 2011). Radiological concerns are discussed in more detail in [HYPERLINK \lambda "_3.1.3_Radiological"].
- October 2008 to April 2009: A treatability study was conducted for groundwater at Parcels D-1 and G using ZVI injection (Alliance Compliance 2010). A total of about 148,000 pounds of ZVI was injected at 97 locations.

COCs in groundwater at Parcel G indicate concentrations less than remediation goals or declining trends since the treatment (Arcadis U.S., Inc. [Arcadis] 2014a). Groundwater continues to be monitored semiannually as part of the basewide groundwater monitoring program.

April to May 2010: The pickling vault was removed at IR Site 9 (adjacent to Building 423) and about 31,000 pounds of ZVI was placed in the excavation for further treatment of hexavalent chromium in groundwater (Tetra Tech EC, Inc. 2010). Concentrations of hexavalent chromium remained below the trigger level in samples collected from wells downgradient from the pickling vault for 3 years after the removal and treatment, until groundwater sampling ceased (CE2-Kleinfelder 2012a).

- September 2010: A soil vapor survey was completed for selected areas at Parcel G, including areas overlying VOC plumes in groundwater and other areas where VOCs were suspected based on previous soil or groundwater sample results (Sealaska Environmental Services, LLC [Sealaska] 2013).
- February to July 2011: Soil excavation and stockpile removals were completed (Engineering/Remediation Resources Group [ERRG] 2011). A total of 569 cy was removed and disposed of off site from nine locations at Parcels B, D-1, and G. Two of the removal areas were located at Parcel G. A total of 52 cy was removed and disposed of off site from two stockpiles at Parcel G.
- January to July 2013: Construction of durable covers was completed. Evaluations
 in the remedial action completion report (RACR) also verified that the previous ZVI
 treatability study met the remedial action objectives for groundwater (Arcadis U.S.,
 Inc. [Arcadis] 2014a).

The final RACR for Parcel G was submitted in March 2014 (Arcadis 2014a). EPA, DTSC, and the Water Board have concurred with the final RACR (EPA 2014a, DTSC 2014, Water Board 2014). The final RACR for the soil excavation and stockpile removals at Parcels B, D-1, and G was submitted in October 2011 (ERRG 2011) and EPA has concurred with this RACR (EPA 2014b). Long-term operation and maintenance (O&M) requirements for the durable covers at Parcel G are detailed in the final O&M plan (Arcadis 2014b). ICs in the form of deed restrictions and a Covenant to Restrict the Use of Property (CRUP) will become effective when the Property is transferred by quitclaim deed to prevent or minimize exposure to areas where potential unacceptable risk is posed by COCs in soil and groundwater. A soil gas survey was completed at the Property in 2010 (Sealaska 2013). [HYPERLINK \lambda "Fig4"] shows the areas requiring institutional controls (ARIC) for VOC vapors as currently envisioned based on the results of the soil vapor survey, as well as areas for other restrictions. The ARICs for VOC vapors have been established through review and approval by the FFA signatories of a memorandum from the Navy BRAC Environmental Coordinator (BEC) to the administrative record file addressing the revised VOC ARICs boundary as a non-significant change to the remedy selected in the ROD (see 55 Federal Register 8772, March 8, 1990) (Navy 2014Forthcoming). Figure 4 also shows areas with restrictions related to residential use and Property-wide restrictions (for example, related to groundwater use). Refer to Section 6.0 for details on restrictions

Commented [TR2]: Does this mean RGs listed in the ROD or the SGALs referred to in the new memo to file?

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3.1.3 Radiological Concerns

The Navy identified potentially radiologically impacted sites throughout HPNS in the Historical Radiological Assessment (HRA) (Naval Sea Systems Command [NAVSEA] 2004) including within the Property, associated with former use of general radioactive materials and decontamination of ships used during atomic weapons testing in the South Pacific. The HRA identified Buildings 351, 351A, 364, 365, 366, 401, 408, 411, and 439 and one former building site (317/364/365) as being radiologically impacted within the Property. Impacted areas are generally those with a history of radiological operations and, therefore, have the potential for residual radioactive contamination (NAVSEA 2004). These buildings or former building sites were subsequently surveyed and determined to present no unacceptable radiological risks. Based on the review of all relevant documentation and independent confirmatory analysis, all of the potentially radiologically impacted buildings and building sites previously identified in the HRA within the Property have been recommended by the California Department of Public Health's Environmental Management Branch for radiological unrestricted release (DTSC 2012).

The combined storm drain and sanitary sewer lines (IR Site 50) were investigated for the presence of radiological contaminants risks. The storm drain lines were used to transfer storm water runoff to the bay; the system was originally designed and built in the 1940s as a combined sanitary and storm sewer system, using the same conveyance piping and 40 separate discharge outfalls into the bay. In 2006, based on the radiological operational history at HPNS, the Navy concluded that a response action was required for the radiologically impacted media in and around the storm drain and sanitary sewer lines. The Navy further concluded that the only acceptable alternative to address potential radioactive contamination was to excavate, survey, and appropriately dispose of the radiologically impacted materials (Navy 2006).

The Navy has completed a time-critical removal action (TCRA) for storm drains and sanitary sewers within the Property; refer to Figure 3 for the locations of storm drains and sanitary sewers. The TCRA involved excavating radiologically impacted storm drain and sanitary sewer lines and surrounding soil to achieve the removal action cleanup objectives. A total of 7,742 soil samples were collected to support the radiological removals. Approximately 2,828 cy of soil did not meet radiological release criteria and was disposed of off site as LLRW. The TCRA met the remedial action objectives in the ROD for the Property as documented in the removal action completion report for the Property (Tetra Tech EC, Inc. 2011). Based on the removal action completion report, DTSC has concurred that the Property is suitable for unrestricted use with respect to radiological issues (DTSC 2012).

3.2 PETROLEUM PRODUCTS AND DERIVATIVES

The petroleum program strategy for site closure described in the Final New Preliminary Screening Criteria and Petroleum Program Strategy (Shaw Environmental, Inc. [Shaw] 2007) and revised by the Water Board (2008) provides the methodology and criteria used to identify petroleum-related sites that may require corrective action or further characterization at HPNS. The Navy and the Water Board identified ten petroleum areas of concern (AOC) within the Property, including AOCs 33-A, 33-B, 33-C, 37-A, 45D-A, and 65-A, and borings IR34B018,

IR34B023, IR71B008, and PA45TA00. AOCs 33-B and 37-A and borings IR34B018 and PA45TA00 contained petroleum commingled with CERCLA constituents and are termed "TPH-commingled AOCs." [HYPERLINK \lambda "Fig5"] shows the locations of the ten AOCs/borings. These AOCs/borings have been recommended for no further action (NFA) in accordance with the HPNS petroleum program strategy, as documented in the Final Petroleum Hydrocarbon Site Closeout Report for Parcels D-1, D-2, and G (Former Parcel D) (ITSI 2011). The Water Board staff-has concurred with the Navy's individual site closeout reports, which recommended NFA. The Water Board staff-has issued NFA letters closing these sites (Water Board 2011a through 2011h).

Pipes coated with a material containing PAHs may be present below ground surface at various locations at the Property. PAHs are regulated substances and must be handled in accordance with all applicable federal, state, and local laws and regulations. The Navy, in consultation with EPA, DTSC, and the Water Board, has determined that the pipes and associated coating material in their existing subsurface condition do not present any threat to human health or the environment, and will not present any threat to human health or the environment if and when removed and handled in accordance with applicable laws.

3.3 ABOVEGROUND AND UNDERGROUND STORAGE TANKS AND PIPELINES

The following sections discuss ASTs and underground storage tanks (UST). No buried fuel lines have been identified at the Property.

3.3.1 ASTs

In 1998, the environmental baseline survey (EBS) report (Tetra Tech EM Inc. 1998) identified 13 ASTs associated with buildings within the Property, ranging in size from less than 55 gallons to 1,600 gallons. The tanks were associated with storage of solvents, fuel oil, and wastewater. Three of the ASTs near Building 302 ([HYPERLINK \[mathbb{I}\] "Fig5"]) were partially buried and were later closed as USTs (U302, U302-1, and U302-3). The remaining 10 ASTs were located inside Buildings 302 (four), 304 (two), 324 (two), 363 (one), and 411 (one). These ASTs have been removed and the surrounding areas investigated as part of the IR or petroleum programs.

3.3.2 USTs

A total of nine USTs were present at the Property; seven of these USTs were removed and two were closed in place. [HYPERLINK\"1"Fig5"] shows the locations of these former USTs and any associated AOCs. The following list summarizes information related to the USTs (ITSI 2011).

- S-304 and S-305. Two, 7,000-gallon gasoline tanks southeast of Building 304 (AOC 33-B). Removed in 1991.
- S-435(1) and S-435(2). Two, 750-gallon solvent tanks northeast of Building 435 (AOC 37-A). Removed in 1991.

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- U302, U302-1, and U302-3. Three, 1,600-gallon solvent tanks southwest of Building 302 (AOC 33-C). Removed in 2000.
- U439-1 and U439-2. Two tanks with a combined capacity of 13,000 gallons southwest of Building 439 intended to be used for acidic and alkaline wastewater. According to the EBS report, these tanks were installed and tested but never used (Tetra Tech EM Inc. 1998). In 2000, the tanks were closed in place because of their proximity to Building 439 (ITSI 2011).

3.4 MUNITIONS AND EXPLOSIVES OF CONCERN

Cargo ammunition and explosive items in ship's allowances were loaded and discharged only at designated naval ordnance facilities or explosive anchorages. Ships scheduled to undergo repair or overhaul were all relieved of their ammunition and explosives, except for permissible small arms ammunition, before they entered into the waters near the shipyard (Naval Energy and Environmental Support Activity 1984).

There is no record of munitions or explosives of concern on the Property.

3.5 ASBESTOS-CONTAINING MATERIAL

Navy building inspectors conducted a survey of structures at HPNS between August and October 1993 to identify ACM. The survey results were reported in Asbestos Survey Report, Naval Station Treasure Island, Hunters Point Annex, Parcels B through E (Mare Island Naval Shipyard 1994) and summarized in the EBS report (Tetra Tech EM Inc. 1998). Buildings 302, 303, 304, 323, 324, 351, 351A, 363, 366, 401, 402, 404, 407, 409, 411, 417, 418, 419, 420, 421, 422, 423, 424, 435, 436, 437, and 439 Of the 148 buildings and structures inspected, all except six (including former Building 438 on the Property) were found to contain either ACM, assumed ACM, or suspected ACM. The Navy Public Works Center (PWC) completed remediation of ACM in 1997. PWC repaired, encapsulated, or removed and disposed of off site loose or damaged pipe insulation and ACM debris in 82 buildings at HPNS. The EBS report summarizes ACM conditions and remediation conducted for all buildings at the Property. The Navy completed additional remediation for ACM during 2002 to 2003 at the following buildings: 302, 363, 366, 401, 402, 404, 407, 411, 418, and 435 (FWEC 2003). The Navy also completed additional remediation for ACM at Building 351 and former Building 408 during 2008 in conjunction with radiological surveys at the Property (Tetra Tech EC, Inc. 2011).

It is DoD policy to manage ACM in a manner protective of human health and the environment, and to comply with all applicable federal, state, and local laws and regulations governing ACM hazards in or on buildings, structures, facilities, and utilities on the Property (DoD 1994). The Navy is not aware of any ACM that has been released into the environment and poses a threat to human health in the Property. Remediation of ACM by the Navy is not required in or on buildings, structures, facilities, and utilities that may be scheduled for demolition by the Transferee where (1) the transfer document prohibits occupation of the buildings until the ACM is abated or the building is demolished before demolition; and (2) the Transferee assumes responsibility for management of any ACM in accordance with applicable laws.

Commented [TR4]: Wouldn't it make more sense to give the number of buildings remediated in Parcel G, and list which ones they were? I understand that the next sentence is intended to refer people to the EBS report for that information, but it would be helpful to have a short overview of the relevant information here. I don't think the 82 buildings fact is particularly relevant to a parcel-specific FOST

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3.6 LEAD-BASED PAINT

Before 1978, the use of lead-based paint (LBP) was common throughout the United States, including military installations. DoD's policy is to survey LBP hazards primarily applied to residential structures built before 1978 (DoD 1994). Navy policy does not require LBP surveys for commercial or industrial buildings unless the buildings will be reused for residential purposes.

No structures were surveyed for LBP at the Property during the EBS surveys because they were not residential structures; however, buildings on the Property are assumed to contain LBP based on their known or assumed dates of construction. Nearly all of the buildings at the Property were constructed in the 1940s and 1950s, except Building 439, which was built in 1973. The Navy is not aware of any LBP that has been released into the environment and poses a threat to human health on the Property. In addition, land use restrictions that will be carried forward for the entire area of the Property will ensure that any potential LBP in soil that may exist in the vicinity of the structures will remain beneath the durable cover and will not pose a human health threat.

The federal Residential Lead-Based Paint Hazard Reduction Act of 1992 applies only to the transfer of federal property for residential use. The Navy has not implemented an LBP abatement program because the proposed transfer of the Property will not involve use of any existing structures for residential purposes. In the event any buildings will be reused as residential property, the Transferee will be required to renovate them consistent with the regulatory requirements for abatement of LBP hazards. If buildings, structures, or facilities that contain, or are presumed to contain, LBP are to be demolished, they must be demolished in accordance with applicable local, state, and federal requirements.

Demolition of non-residential buildings and structures constructed prior to 1978 creates the possibility of lead being found in the soil as a result of such activities. With respect to any such nonresidential buildings and structures which the Transferee intends to demolish and redevelop for residential use after transfer, the Transferee may, under applicable law or regulation, be required by DTSC or other regulatory agencies to evaluate the soil adjacent to such non-residential buildings and structures for soil-lead hazards, and to abate any such hazards that may be present after demolition of such non-residential buildings and structures, and prior to occupancy of any newly constructed residential buildings.

3.7 POLYCHLORINATED BIPHENYLS

Basewide. In 1987 and 1988, 199 transformers located throughout HPNS were removed from their original locations and disposed of off site by American Environmental Management Corporation and the Navy's Public Works Department (Harding Lawson Associates [HLA] 1990). After this removal, YEI Engineers, Inc. (YEI), conducted a facility-wide utility study in 1988 that included a survey of all existing on-site electrical equipment containing PCBs (YEI 1988). YEI found 83 transformers containing PCBs at less than 50 parts per million (ppm) and 169 at greater than 50 ppm. Of the 206 breakers and switches surveyed basewide, 112 were found to be PCB-contaminated (YEI 1988). The Navy conducted a basewide site inspection of all former transformer locations in 1994 (HLA 1994); former transformer sites were designated as IR Site 51.

Commented [TR5]: This is a basewide discussion of transformer removals. The Parcel G-specific section below does not identify which locations were in Parcel G. Doesn't this need to be more tailored?

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Under the IR Program, 78 transformer locations found by YEI to contain PCBs at concentrations greater than 50 ppm were surveyed and evaluated for leakage and contamination. The 169 transformers mentioned above were present at 78 locations (multiple transformers at some sites); all the locations were evaluated. Removals were recommended whenever any problems were found (Tetra Tech EM Inc. 1998). The IR Program also evaluated the sites of 118 transformers that were removed before 1988. These sites were visually evaluated for staining caused by leakage of oils containing PCBs. The Navy removed and disposed of 239 pieces of PCB-containing electrical equipment in 1996 (PWCSFB 1996 Tetra Tech EM Inc. 1998). According to the EBS report, after work scheduled in 1998 had been completed, the Navy would have no transformers or oil circuit breakers (OCB) that were out of service with PCB concentrations of 5 ppm or greater at HPNS (Tetra Tech EM Inc. 1998). The concentration of 5 ppm was used as a benchmark in the EBS report to represent a threshold for disposal of transformer fluids based on California regulations. The 5 ppm concentration applies only to liquids within a transformer or electrical equipment.

Property. The EBS report indicated that transformers or OCBs potentially containing PCBs at concentrations greater than 5 ppm were present at the Property in Buildings 402 and 411. As discussed above, all out of service transformers and OCBs with PCB concentrations greater than 5 ppm were scheduled to be removed in 1998.

In addition, tThe Navy conducted a survey of industrial process equipment (IPE) at former Parcel D (including the Property) in 2002 to 2003 to identify equipment that may have contained or used oils potentially contaminated with PCBs (FWEC 2003). IPE evaluated in the survey included stand-alone equipment such as presses, punches, lathes, process pumps, and milling machines. The survey excluded elevator or door motors, cranes, intact fluorescent light ballasts, and electrical equipment such as generators, transformers, and capacitors. The IPE survey used the Toxic Substances Control Act (TSCA) "non-PCB" thresholds of 50 ppm for liquid oil and 10 micrograms per 100 square centimeters (10 μg/100 cm²) for wipe samples to classify the types of equipment discovered.

The IPE survey identified 32 pieces of Navy-owned IPE, including 26 pieces at the Property; 11 of the 26 pieces may have used cutting oils that could be contaminated with PCBs. These 11 pieces of IPE were located in Buildings 303 (one), 366 (nine), and 439 (one) and were sampled for analysis of PCBs. No PCBs were detected in samples for seven pieces of IPE. Samples from three pieces of equipment in Building 366 indicated PCB concentrations less than $10~\mu g/100~cm^2$, and these items were labeled accordingly. Samples collected from a press at Building 439 indicated PCB concentrations greater than 50 ppm, and the press was removed and disposed of off site (FWEC 2003).

In addition to Navy-owned IPE, the IPE survey evaluated 104 pieces of IPE owned by tenants at former Parcel D. A tenant provided documentation verifying that 31 pieces of IPE had been tested as PCB-free. Samples were collected from the remaining 73 pieces of tenant-owned IPE. Samples collected from eight pieces of IPE at Buildings 302 (two) and 401 (six) contained PCB concentrations greater than the 50 ppm threshold, and tenants were notified of their responsibility to decontaminate the equipment or remove it from HPNS. Staff from the Navy Caretaker Site Office inspected Buildings 302 and 401 in March 2011 and found no tenant-owned IPE.

Commented [TR6]: What does this mean, soil contamination?

Commented [TR7]: What about contaminated soils?

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3.8 PESTICIDES

There is no record that an area or building on the Property was dedicated to storage of pesticides. The Property may contain pesticide residue from pesticides that have been applied in management of the Property (see [HYPERLINK \lambda "_5.4_Pesticides"]).

4.0 ADJACENT PARCELS

The Property is surrounded by other HPNS parcels as follows: Parcels UC-1, UC-2, (and D-2, and former Parcel A just beyond to the north), Parcels C and D-1 to the east, Parcels D-1 and E to the south, and Parcel E (and to a minimal extent Parcel UC-1) to the west [HYPERLINK \"Fig2"]). Groundwater flows onto the Property from uncontaminated areas (former Parcel A and Parcels D-2 and UC-1) on the northern edge of the Property. The groundwater table in the shallow, A-aquifer forms a ridge beneath the Property, and groundwater generally flows away from the Property to the east, south, and west, toward San Francisco Bay. Consequently, there is minimal potential for contamination in groundwater to migrate onto the Property.

There is little potential for radioactive materials in adjacent parcels to pose a risk at the Property. The only potential exposure pathway for radiological exposure would be via inhalation of windblown dust from uncovered areas at Parcel E. Winds blow predominantly from the west at HPNS, and the portions of Parcel E immediately upwind from the Property are either not radiologically impacted or have been surveyed and radiologically released for unrestricted use. The Navy maintains active dust control measures for all radiologically impacted areas at HPNS, including those adjacent to the Property (Tetra Tech EC, Inc. 2009). The basewide radiological contractor periodically measures the dose rate at the perimeter of all radiologically impacted areas, and these measurements indicate no migration of radiological materials. Likewise, basewide monitoring for dust does not indicate radioactive contamination in the dust.

The following subsections describe adjacent parcels and the potential for contaminants from those sites to affect the Property. Each subsection describes groundwater first, followed by soil gas. The subsections also describe any ongoing remedial actions occurring at adjacent parcels.

North - Parcels UC-1 and UC-2 (including Parcel D-2 and former Parcel A)

Former Parcel A has been transferred to the agency formerly known as the San Francisco Redevelopment Agency (SFRA), and Parcel D-2 has been found suitable for unrestricted reuse and transfer out of Navy control (Navy 2012). Therefore, there is no potential for these parcels to adversely affect the property.

No soil samples have been collected for chemical analysis (except for samples collected associated with radiological removals) at Parcels UC-1 and UC-2 because no known sources of chemical contamination are present, based on review of historical documents and past operations. Similarly, no groundwater monitoring wells have been installed at Parcels D-2 and UC-1. The three groundwater monitoring wells at Parcel UC-2 are located at the eastern end of

Parcel UC-2 (more than 1,000 feet from the Property) and are not upgradient from the Property. Therefore, it is unlikely that contaminants in groundwater could adversely affect the Property.

Soil gas has the potential to migrate from adjacent Parcels UC-1 and UC-2 einto subsurface soil at the Property. Concentrations of chemicals measured in a soil gas sample collected in 2010 from Parcel UC-2 about 50 feet northeast of the northeastern corner of the Property indicated a potentially unacceptable risk to future residential receptors via vapor intrusion into a structure (Sealaska 2013). Similarly, concentrations of chemicals measured in soil gas samples collected in 2013 from Parcel UC-1 indicated a potentially unacceptable risk to future residential receptors via vapor intrusion (ERRG 2014a). Benzene, chloroform, trichloroethene, and vinyl chloride contributed the most risk. However, concentrations posed risk only slightly above the unacceptable level (excess incremental risk of 10⁻⁶). It is unlikely that soil gas migration from Parcels UC-1 and UC-2 would adversely affect the Property.

Ongoing remedial actions. The remedial action at the Parcels UC-1 and UC-2 (durable covers over soil) was implemented between May and September 2012. The final RACR was submitted in February 2013 (ERRG 2013), and an addendum summarizing a soil gas survey conducted at Parcel UC-1 was submitted in September 2014 (ERRG 2014b). EPA, DTSC, and the Water Board have concurred with the final RACR (EPA 2013, DTSC 2013, Water Board 2013) and the addendum (Forthcoming). RODs requiring no further action have been signed for former Parcel A (Navy 1995) and Parcel D-2 (Navy 2010). Former Parcel A has been transferred out of Navy control (Tetra Tech EM Inc. 2004), and Parcel D-2 has been found suitable for transfer (Navy 2012).

East - Parcels C and D-1

Groundwater flows from the Property toward Parcels C and D-1. The <u>downgradient</u> groundwater plume at Parcel D-1 has been remediated. Groundwater plumes at Parcel C are undergoing remediation and are more than 500 feet east <u>and downgradient</u> of the Property; therefore, it is unlikely that chemicals in groundwater <u>attrom</u> these adjacent parcels would adversely affect the Property based on the upgradient location of the Property.

Soil gas has the potential to migrate from adjacent Parcels C and D-1 einto <u>subsurface soil at</u> the Property. Concentrations of chemicals measured in soil gas samples collected from the portions of Parcel D-1 immediately east of the Property in 2010 indicated a potentially unacceptable risk to future residential receptors via vapor intrusion (Sealaska 2013). Benzene and methylene chloride contributed most of the risk. However, concentrations posed risk only slightly above the unacceptable level. A parcel-wide soil gas survey has not yet been conducted at Parcel C, but is scheduled after remedial actions have been completed. Areas of known VOC contamination in soil and groundwater at Parcel C are undergoing active remediation, and these activities are expected to address any potential migration of VOCs in soil gas from Parcel C. In addition, Dry Dock 4 separates the Property from the majority of Parcel C; the physical barrier provided by the dry dock would prevent soil gas migration from most of the VOC-contaminated areas at Parcel C. Therefore, it is unlikely that soil gas <u>migration</u> from Parcels C and D-1 would adversely affect the Property.

Commented [TR8]: It is not self-evident that this conclusion follows from the previous sentence. If there is a plume nearby and it is above the acceptable level, why is it unlikely that Parcel G will be affected?

I know we raised this in our comments and the Navy said further discussion was not warranted in the FOST and is available in other documents. It still just sounds odd to me

Commented [TR9]: Same comment as above

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Ongoing remedial actions. Remediation at Parcels C and D-1 is in progress including the following components:

Parcel C:

Soil: Excavation and off-site disposal in selected areas (completed), soil vapor extraction (SVE) for source reduction for VOCs (in progress), and installation of parcel-wide durable covers (not yet started).

Groundwater: Treatment using ZVI or biological substrate to destroy VOCs (in progress).

Soil gas: Soil gas survey to provide data to evaluate potential vapor intrusion risks and assess the need for additional remedial activities or ICs (not yet started).

Radiologically impacted soil and structures: Decontamination of impacted structures (in progress) and excavation of impacted storm drain and sanitary sewer lines and off-site disposal (completed).

Parcel D-1:

Soil: Excavation and off-site disposal in selected areas and removal of stockpiles (completed except for two areas that await removal of the radiological screening yard for excavation) and installation of parcel-wide durable covers (not yet started).

Groundwater: Treatment using ZVI or biological substrate to destroy VOCs (completed).

Soil gas: Soil gas survey to provide data to evaluate potential vapor intrusion risks and assess the need for additional remedial activities or ICs (not yet started).

Radiologically impacted soil and structures: Decontamination of impacted structures (in progress) and excavation of impacted storm drain and sanitary sewer lines and off-site disposal (in progress).

South - Parcels D-1 and E

Groundwater flows from the Property toward Parcels D-1 and E; therefore, it is unlikely that chemicals in groundwater attrom these adjacent parcels could adversely affect the Property based on the upgradient location of the Property.

Soil gas has the potential to migrate from adjacent Parcels D-1 and E ointo subsurface soil at the Property. Concentrations of chemicals measured in two soil gas samples collected from the portion of Parcel D-1 adjacent to and south of the Property in 2010 indicated a potentially unacceptable risk to future residential receptors via vapor intrusion into a structure (Sealaska

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2013). Benzene, ethylbenzene, and chloroform contributed most of the risk. However, concentrations posed risk only slightly above the unacceptable level. A parcel-wide soil gas survey has not yet been conducted at Parcel E, but is scheduled after remedial actions have been completed. Areas of known VOC contamination in soil and groundwater at Parcel E will be targeted for active remediation, and these activities are expected to address any potential migration of VOCs in soil gas from Parcel E. Therefore, it is unlikely that soil gas migration from Parcels D-1 and E would adversely affect the Property.

Ongoing remedial actions. Remediation at Parcel D-1 is described above. Except for radiological removals, remediation has not yet begun at Parcel E but will include, based on the ROD (Navy 2013): (1) removal, treatment, and containment of soil and shoreline sediment; (2) treatment and containment of groundwater; (3) removal, treatment, and containment of nonaqueous phase liquid at IR Site 3; and (4) removal and containment of radiologically impacted media.

West - Parcel E

Groundwater flows from the Property toward Parcel E; therefore, it is unlikely that chemicals in groundwater from Parcel E would affect the Property based on the upgradient location of the Property. A VOC plume exists in groundwater beneath Building 406 immediately west and downgradient of the Property; this plume is identified in the ROD for Parcel E (Navy 2013) for active remediation using injection of a biological growth medium or ZVI. It is unlikely that hazardous substances afterm Parcel E could adversely affect the Property based on the upgradient location of the Property relative to Parcel E.

Soil gas has the potential to migrate from adjacent Parcel E einto subsurface soil at the Property. A parcel-wide soil gas survey has not yet been conducted at Parcel E. However, areas of known VOC contamination in soil and groundwater at Parcel E will be targeted for active remediation, and these activities are expected to address any potential migration of VOCs in soil gas from Parcel E. Therefore, it is unlikely that soil gas migration from Parcel E would adversely affect the Property.

Ongoing remedial actions. Plans for remediation at Parcel E are described above.

5.0 NOTIFICATIONS

This section summarizes the notifications applicable to the Property that were identified for incorporation into the transfer deed.

5.1 HAZARDOUS SUBSTANCES

Hazardous substances stored, released, or disposed of on site require a CERCLA hazardous substance notice, in accordance with Title 40 CFR Part 373. [HYPERLINK \l "AppA"] lists the hazardous substances that were stored, released, or disposed of at the Property that require notification under CERCLA § 120(h).

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Commented [TR10]: Same comment.

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5.2 ASBESTOS-CONTAINING MATERIAL

The deed will contain a notice that the Transferee is hereby informed and does acknowledge that asbestos and ACM have been found and are otherwise presumed to exist in Buildings 302, 303, 304, 323, 324, 351, 351A, 363, 366, 401, 402, 404, 407, 409, 411, 417, 418, 419, 420, 421, 422, 423, 424, 435, 436, 437, and 439. The Transferee will be responsible for managing and complying with all applicable federal, state, and local laws and regulations relating to ACM.

5.3 LEAD-BASED PAINT

The Transferee is hereby notified that LBP is presumed present in nonresidential buildings, structures, or facilities within the parcel proposed for transfer based on the age of construction (that is, the building or structure was constructed before the Consumer Product Safety Commission's 1978 ban on LBP for residential use). The Property contains numerous buildings known or presumed to have been built before 1978 that may contain LBP. Nearly all of the buildings at the Property were constructed in the 1940s and 1950s, except Building 439, which was built in 1973. Lead (from LBP) may exist in soil surrounding these buildings. LBP may have been stripped from the buildings through normal weathering. The deed will contain a notice stating that all buildings within the Property are presumed to contain LBP because of their age. Lead from paint, paint chips, and dust can pose health hazards if not managed properly.

With respect to any such nonresidential buildings, structures, or facilities which the Transferee intends to demolish and redevelop, the Transferee may, under applicable law or regulation, be required by DTSC or other regulatory agencies to evaluate the soil adjacent to these nonresidential buildings, structures, or facilities for soil-lead hazards, and to abate any such hazards that may be present, after demolition and prior to construction of any structures.

5.4 PESTICIDES

NOTIFICATION OF PESTICIDE USE: The Property may contain pesticide residue from pesticides that have been applied in the management of the Property. The Navy knows of no use of any registered pesticide in a manner inconsistent with its labeling and believes that all applications were made in accordance with the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA — 7 U.S.C. § 136, et seq.), its implementing regulations, and according to the labeling provided with such substances. It is Navy's position that it shall have no obligation under the covenants provided pursuant to § 120(h)(3)(A)(ii) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. § 9620(h)(3)(A)(ii), for the remediation of any registered pesticides applied in a manner consistent with its labeling and in accordance with FIFRA.

6.0 RESTRICTIONS

CERCLA Institutional Controls. In accordance with the ROD prepared pursuant to CERCLA for the Property (Navy 2009), ICs will be implemented to prevent exposure to COCs in soil and groundwater on the Property. These restrictions will be incorporated into two separate legal

Commented [TR11]: The substance of this section is the same as in the FOST for UC-1 and UC-2 but the language is slightly different. Doesn't really matter to me, just seems odd.

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instruments: (1) quitclaim deed(s) between the Navy and the Transferee; and (2) CRUP(s) between the Navy and DTSC, and with EPA as a third-party beneficiary. The ICsthey will apply to any and all property within the ARICs (Figure 4).

All of the Property will be subject to ICs related to soil and groundwater. In addition, ICs have been selected in the ROD (Navy 2009) to address potential vapor intrusion from VOCs in soil vapor and groundwater. Risk to human health may exist from potential intrusion of VOC vapors into structures built at the Property in certain areas, as designated on [HYPERLINK \1 "Fig4"]. Consequently, these areas are included in the ARICs for VOC vapors at the Property. If enclosed structures are to be constructed on the Property in the ARICs subject to potential vapor intrusion, engineering controls or other design alternatives to assure vapors are reduced to acceptable levels must be implemented. In addition, the requirement for engineering controls or other design alternatives will be enforced through a recorded deed restriction and a restrictive covenant between DTSC and the Navy.

The IC land use restrictions for the Property are as follows:

- 1. The following activities are prohibited throughout the Property:
 - a. Growing vegetables, fruits, or any edible items in native soil for human consumption. Plants for human consumption may be grown if they are planted in raised beds (above the CERCLA-approved cover) containing non-native soil. Trees producing edible fruit (including trees producing edible nuts) may also be planted provided they are grown in containers with a bottom that prevents the roots from penetrating the native soil.
 - b. Use of groundwater.
- 2. Use of the portions of the PropertyThe portions of the Property designated as the Shipyard South Multi-Use District in the SFRA's Hunters Point Shipyard Redevelopment Plan, as amended in 2010 (SFRA 2010), which were designated for open space, educational/cultural, and industrial land uses in SFRA's former 1997 redevelopment plan, as adopted in 1997 (SFRA 1997) is restricted (see ARIC related to residential use on [HYPERLINK \lambda "Fig4"]) are restricted for any of the following uses unless approved by the FFA signatories in accordance with the quitclaim deed, CRUP, and risk management plan for each parcel-before the property is used for any of the following restricted uses:
 - a. A residence, including any mobile home or factory-built housing, constructed or installed for use as residential human habitation,
 - b. A hospital for humans,
 - c. A school for persons under 21 years of age, or
 - d. A day care facility for children.
- 3. The following activities are restricted throughout the Property unless prior written approval for these activities is granted by the FFA signatories:

- a. "Land disturbing activity," which includes, but is not limited to: (1) excavation of soil, (2) construction of roads, utilities, facilities, structures, and appurtenances of any kind, (3) demolition or removal of "hardscape" (for example, concrete roadways, parking lots, foundations, and sidewalks), (4) any activity that involves movement of soil to the surface from below the surface of the land, and (5) any other activity that causes or facilitates movement of known contaminated groundwater. Land-disturbing activities are not intended to include placement of additional clean, imported fill on top of the soil cover that the Navy has constructed at the Property.
- b. Alteration, disturbance, or removal of (i) any component of a response or cleanup action (including, but not limited to revetment walls and shoreline protection and soil cover/containment systems); or (ii) groundwater extraction, injection, and monitoring wells and associated piping and equipment; or (iii) associated utilities.
- Extraction of groundwater and installation of new groundwater wells, with the exception of construction, operation, and maintenance <u>responses</u> <u>activities</u> or remedial actions as required or necessary under the CERCLA remedy.
- d. Removal of or damage to security features of a CERCLA remedy or monitoring device (for example, locks on monitoring wells, survey monuments, fencing, signs, or monitoring equipment and associated pipelines and appurtenances).
- Construction of enclosed structures. Risk to human health may exist from potential intrusion of VOC vapors into structures built at the Property. Consequently, these areas are included in the ARICs for VOC vapors (see [HYPERLINK \l "Fig4"]). Potential risk can be reduced Prior to construction of any new enclosed structure within a VOC ARIC, the Owner shall obtain approval from the FFA signatories of the vapor mitigation engineering controls or design alternatives to be incorporated in that structure. A reduction in potential risk can be achieved through engineering controls or other design alternatives that meet the specifications set forth in DTSC's "Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air" and "Final Vapor Intrusion Mitigation Advisory, Revision 1," both dated October 2011 (DTSC 2011a, 2011b). Alternatively, the ARIC for VOC vapors may be modified by the FFA signatories as the soil or groundwater contamination areas that are producing unacceptable vapor inhalation risks are reduced over time or in response to further soil, vapor, and groundwater sampling and analysis for VOCs that establishes that areas now included in the ARIC for VOC vapors do not pose an unacceptable potential exposure risk as a result of VOC vapors. When construction of enclosed structures or reuse of an existing building is proposed in an ARIC for VOC vapors, the FFA signatories must approve the design of the vapor control system built into foundations. Enclosed structures within the ARIC for VOC vapors shall not be occupied until Prior to occupation of enclosed structures with

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<u>a VOC ARIC</u>, the Owner has requested and shall obtained FFA signatory approval (through approval of a RACR or similar document) that any necessary engineering controls or design alternatives have been properly constructed and are operating successfully.

The IC objectives will be met by access controls until the time of transfer.

7.0 COVENANTS

The deed will contain the following covenants.

All Remedial Action Has Been Taken. The deed will include a covenant by the United States, made pursuant to the provisions of CERCLA § 120(h)(3)(A)(ii)(I) and as set forth in DoD Instruction 4165.72. The covenant will warrant that all remedial action necessary to protect human health and the environment with respect to any hazardous substance remaining on the property has been taken before the date of this deed.

Additional Remediation Obligation. The deed will also include a covenant by the United States, made pursuant to the provisions of CERCLA § 120(h)(3)(A)(ii)(II) and as set forth in DoD Instruction 4165.72, warranting that any remedial action found to be necessary after the date of this deed shall be conducted by the United States.

Right of Access. The deed will contain a covenant by the Transferee, on behalf of itself, its successors and assigns, granting to the United States right of access to the property, pursuant to the provisions of CERCLA § 120(h)(3)(A)(iii) and as set forth in DoD Instruction 4165.72, in any case in which any remedial or corrective action is found to be necessary after the date of such transfer.

Asbestos-Containing Material. The Transferee covenants and agrees that in its use of the Property, including but not limited to demolition or handling of buildings, structures, facilities, or utilities containing ACM, it will be responsible for managing ACM and for complying with all applicable federal, state, and local laws relating to ACM.

The Transferee acknowledges that the Transferor assumes no liability for costs of any kind or for damages for personal injury, illness, disability, or death to the Transferee, or to any other person, including members of the general public, arising from or incident to the purchase, transportation, removal, handling, use, disposition, or activity causing or leading to contact of any kind whatsoever with ACM in the improvements including, but not limited to, the buildings, structures, facilities, and utilities (both underground and aboveground) on the Property, arising after the conveyance of the Property from the Transferor to the Transferee, whether the Transferee has properly warned, or failed to properly warn, the persons injured.

If ACM within a building, structure, or facility on the Property may pose a threat to human health within the building, structure, or facility (that is, friable, accessible and damaged [FAD] ACM) at

the time of transfer, the Transferee shall prohibit occupation of the building, structure, or facility until the ACM is abated or the building, structure, or facility is demolished by the Transferee in accordance with all applicable local, state, and federal laws and other requirements relating to asbestos or ACM.

Lead-Based Paint. The deed will contain a covenant that the Transferee, in its use and occupancy of the Property, including but not limited to demolition of buildings, structures, or facilities, and identification and/or evaluation of any LBP hazards, shall be responsible for managing LBP and LBP hazards in accordance with applicable federal, state, and local laws and other requirements relating to LBP and LBP hazards. Furthermore, the Transferee will prohibit residential occupancy and use of buildings and structures, or portions thereof, prior to identification and evaluation of any LBP hazards, and abatement of any hazards identified as required.

Based on the information contained in this FOST and the notices, restrictions, and covenants that will be contained in the deed, the Property is suitable for transfer. Signature: Mr. Lawrence Lansdale, PE By direction of the Director BRAC Program Management Office West

9.0 REFERENCES

- Alliance Compliance Group Joint Venture. 2010. Final Parcels D-1 and G Groundwater Treatability Study Technical Report, IR-09, IR-33, and IR-71, Hunters Point Shipyard, San Francisco, California. March.
- Arcadis U.S. Inc. (Arcadis). 2014a. Final Remedial Action Completion Report, Durable Cover, Groundwater Treatment, and Institutional Controls for Parcel G, Hunters Point Shipyard, San Francisco, California. March.
- Arcadis. 2014b. Final Operation and Maintenance Plan for Parcel G, Hunters Point Naval Shipyard, San Francisco, California. May.
- Battelle. 1996. Field Demonstration Report on Recycling Spent Sandblasting Grit into Asphaltic Concrete, Volume I, Field Demonstration Test Methods, Results and Conclusions. January 11.
- California Regional Water Quality Control Board, San Francisco Bay Region (Water Board). 2008. Letter Regarding Concurrence with the Final New Preliminary Screening Criteria and Petroleum Program Strategy, Hunters Point Shipyard, San Francisco. From Erich Simon, Water Board Project Manager. To Keith Forman, Base Realignment and Closure Environmental Coordinator, Naval Facilities Engineering Command, Southwest Division. February 28.
- Water Board. 2011a. No Further Action for Area of Concern (AOC) 37-A, Parcel G, Hunters Point Naval Shipyard, San Francisco County. July 22.
- Water Board. 2011b. No Further Action for Boring of Concern (BOC) IR34B018, Parcel G, Hunters Point Naval Shipyard, San Francisco County. August 3.
- Water Board. 2011c. No Further Action for Area of Concern (AOC) 45D-A and Borings of Concern (BOCs) IR44B009, PA45TA00, and IR71B008, Parcels D-1 and G, Hunters Point Naval Shipyard, San Francisco County. August 3.
- Water Board. 2011d. No Further Action for Area of Concern (AOC) 33-A, Parcel G, Hunters Point Naval Shipyard, San Francisco County. August 4.
- Water Board. 2011e. No Further Action for Area of Concern (AOC) 33-B, Parcel G, Hunters Point Naval Shipyard, San Francisco County. August 5.
- Water Board. 2011f. No Further Action for Boring of Concern (BOC) IR34B023, Parcel G, Hunters Point Naval Shipyard, San Francisco County. September 7.
- Water Board. 2011g. No Further Action for Area of Concern (AOC) 65-A, Parcel G, Hunters Point Naval Shipyard, San Francisco County. October 5.
- Water Board. 2011h. No Further Action for Area of Concern (AOC) 33-C, Parcel G, Hunters Point Naval Shipyard, San Francisco County. October 6.

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- Water Board. 2013. Approval of Remedial Action Completion Report for Parcels UC-1 and UC-2. Email from Ross Steenson, Water Board, to Hamide Kayaci, Navy Project Manager, BRAC PMO West. February 13.
- Water Board. 2014. Approval of Final Remedial Action Completion Report, Parcel G, Hunters Point Naval Shipyard, San Francisco, California. Email from Tina Low, Water Board to Mahbub Hussain, U.S. Navy. February 26.
- <u>CE2-Kleinfelder.</u> 2012a. Final Technical Memorandum for Monitoring Program Optimization, Parcels B, D-1, G, and UC-2, Hunters Point Naval Shipyard, San Francisco, California. June.
- CE2-Kleinfelder. 2012b. Final Addendum 4 to Final Amended Sampling and Analysis Plan (Field Sampling Plan and Quality Assurance Project Plan for Basewide Groundwater Monitoring Program), Hunters Point Naval Shipyard, San Francisco, California. June 5.
- Department of Defense (DoD). 1994. Asbestos, Lead-Based Paint (LBP), and Radon Policies at Base Realignment and Closure Cleanup (BRAC) Properties.
- DoD. 2006. Base Redevelopment and Realignment Manual. DoD 4165.66-M. Office of the Deputy Under Secretary of Defense (Installations and Environment). March 1. Available on-line at: [HYPERLINK "http://www.dod.mil/brac/pdf/4165-66-M BRRM.PDF"]
- Department of the Navy (Navy). 1990. Federal Facility Agreement for Naval Station Treasure Island Hunters Point Annex. September.
- Navy. 1995. Hunters Point Shipyard, Parcel A, Record of Decision. November 16.
- Navy. 2006. Final Basewide Radiological Removal Action, Action Memorandum Revision 2006, Hunters Point Shipyard, San Francisco, California. April 21.
- Navy. 2009. Final Record of Decision for Parcel G, Hunters Point Shipyard, San Francisco, California. February 18.
- Navy. 2010. Final Record of Decision for No Further Action at Parcel D-2, Hunters Point Shipyard, San Francisco, California. August 9.
- Navy. 2012. Final Finding of Suitability to Transfer for Parcel D-2, Hunters Point Naval Shipyard, San Francisco, California. March 27.
- Navy. 2013. Final Record of Decision for Parcel E, Hunters Point Naval Shipyard, San Francisco, California. December.
- Navy. 2014. Non-significant (Minor) Changes to the Selected Remedies Presented in the Records of Decision for Parcels B, D-1, G, UC-1, and UC-2, Hunters Point Naval Shipyard, San Francisco, California. September 15.

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- Navy Base Realignment and Closure (BRAC) Program Management Office (PMO). 2008. Policy for Processing Findings of Suitability to Transfer or Lease. December 12.
- Department of Toxic Substances Control (DTSC). 2011a. Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air. October.
- DTSC. 2011b. Final Vapor Intrusion Mitigation Advisory, Revision 1, October.
- DTSC. 2012. Radiological Unrestricted Release Recommendation for Parcel G, Hunters Point Shipyard, San Francisco, California. March 27.
- DTSC. 2013. Approval of Remedial Action Completion Report for Parcels UC-1 and UC-2.
 Email from Ryan Miya, DTSC to Keith Forman, Navy BEC, BRAC PMO West.
 February 15.
- DTSC. 2014. Approval of Final Remedial Action Completion Report, Parcel G, Hunters Point Naval Shipyard, San Francisco, California. E-mail from Ryan Miya, DTSC, to Mahbub Hussain, U.S. Navy. March 4.
- Engineering/Remediation Resources Group Inc. (ERRG). 2011. Final Remedial Action Completion Report for Soil Hotspot Locations at Parcels B, D-1, and G and Soil Stockpiles at Parcels D-1 and G, Hunters Point Naval Shipyard, San Francisco, California. October 7.
- ERRG. 2013. Final Remedial Action Completion Report for Parcels UC-1 and UC-2, Hunters Point Naval Shipyard, San Francisco, California. February 25.
- ERRG. 2014a. <u>FinalDraft</u> Technical Memorandum Soil Vapor Investigation in Support of Vapor Intrusion Assessment at Parcel UC-1, Hunters Point Naval Shipyard, San Francisco, California. <u>August April</u>.
- ERRG. 2014b. Final Addendum to the Remedial Action Completion Report for Parcels UC-1 and UC-2, Hunters Point Naval Shipyard, San Francisco, California. September.
- Foster Wheeler Environmental Corporation. 2003. Final Post-Construction Report, Industrial Process Equipment Survey, Sampling, Decontamination, and Waste Consolidation, Parcel D, Hunters Point Shipyard, San Francisco, California. Revision 0. October 22.
- Harding Lawson Associates (HLA). 1990. Preliminary Assessment Other Areas/Utilities, Naval Station Treasure Island Hunters Point Annex, San Francisco, California. October 19.
- HLA. 1994. Draft Final Parcel D Site Inspection Report, Naval Station Treasure Island, Hunters Point Annex, San Francisco, California. May 30.
- Innovative Technical Solutions, Inc. (ITSI). 2011. Final Petroleum Hydrocarbon Site Closeout Report, Parcels D-1, D-2, and G (Former Parcel D), Hunters Point Shipyard, San Francisco, California. January.

FOST, Parcel G, HPNS 23 TRIE-2205-0057-0006

- IT Corporation. 1997. Storm Drain Sediment Removal Action Report, Hunters Point Shipyard, San Francisco, California. January.
- IT Corporation. 1999. Completion Report, Exploratory Excavations, Hunters Point Naval Shipyard, San Francisco, California. June.
- Mare Island Naval Shipyard. 1994. Asbestos Survey Report, Naval Station Treasure Island, Hunters Point Annex, Parcels B through E, San Francisco, California.
- Naval Energy and Environmental Support Activity (NEESA). 1984. Initial Assessment Study (IAS) Hunters Point Naval Shipyard (Disestablished), San Francisco, California. NEESA 13-059. October.
- Naval Sea Systems Command (NAVSEA). 2004. Final Historical Radiological Assessment, Volume 2, History of the Use of General Radioactive Materials, 1939 2003, Hunters Point Shipyard. August 31.
- Public Works Center San Francisco Bay (PWCSFB). 1996. PCB Survey of High and Low Voltage Electrical Equipment, Hunters Point Annex, San Francisco, California. April 2.
- San Francisco Redevelopment Agency (SFRA). 1997. Hunters Point Shipyard Redevelopment Plan. July 14.
- SFRA. 2010. Hunters Point Shipyard Redevelopment Plan. August 3 (amendment to July 14, 1997, redevelopment plan).
- Supervisor of Shipbuilding, Conversion, and Repair, Portsmouth, VA, Environmental
 Detachment Vallejo (SSPORTS). 1998. Final PCB Assessment and Removal Report for
 High Voltage PCB Electrical Devices, Hunters Point Shipyard, San Francisco, California.
 March 24.
- Sealaska Environmental Services, LLC (Sealaska). 2013. Final Technical Memorandum, Soil Vapor Investigation in Support of Vapor Intrusion Assessment, Parcels B, D-1, G, and UC-2, Hunters Point Naval Shipyard, San Francisco, California. March.
- Shaw Environmental, Inc. (Shaw). 2007. Final New Preliminary Screening Criteria and Petroleum Program Strategy, Hunters Point Shipyard, San Francisco, California. December 21.
- SulTech. 2007. Final Revised Feasibility Study for Parcel D, Hunters Point Shipyard, San Francisco, California. November 30.
- Tetra Tech EC, Inc. 2009. Final Basewide Dust Control Plan, Hunters Point Shipyard, San Francisco, California. June 12.
- Tetra Tech EC, Inc. 2010. Final Completion Letter Report, Pickling Vault Removal, Parcel G, Hunters Point Shipyard, San Francisco, California. July 2.

FOST, Parcel G, HPNS 24 TRIE-2205-0057-0006

- Tetra Tech EC, Inc. 2011. Final Removal Action Completion Report, Parcel G, Hunters Point Naval Shipyard, San Francisco, California. December 2.
- Tetra Tech EM Inc. 1998. Final Basewide Environmental Baseline Survey, Revision 01, Hunters Point Shipyard, San Francisco, California. September 4.
- Tetra Tech EM Inc. 2001. Revised Parcel D Information Package for the Phase II Groundwater Data Gaps Investigation, Hunters Point Shipyard, San Francisco, California. March 8.
- Tetra Tech EM Inc. 2004. Final Finding of Suitability to Transfer for Parcel A (Revision 3), Hunters Point Shipyard, San Francisco, California. October 8,
- Tetra Tech EM Inc. and ITSI. 2005. Final Closeout Report, Time Critical Removal Action for Parcel D Excavation Sites, Hunters Point Shipyard, San Francisco, California. May 13.
- U.S. Environmental Protection Agency (EPA). 2013. Approval of Remedial Action Completion Report for Parcels UC-1 and UC-2. Email from Craig Cooper, Superfund Project
 Manager, EPA to Keith Forman, Navy BEC, BRAC PMO West. February 15.
- U.S. Environmental Protection Agency (EPA). 2014a. EPA Concurrence with the Remedial Action Completion Report for Durable Cover, Groundwater Treatment, and Institutional Controls for Parcel G at the Hunters Point Naval Shipyard, dated

 March 26, 2014Approval of Final Remedial Action Completion Report, Parcel G,
 Hunters Point Naval Shipyard, San Francisco, California. LetterEmail from Angeles Herrera, Assistant Director, Federal Facilities and Site Cleanup Branch, Craig Cooper,
 EPA to Thomas Macchiarella, Acting BRAC Environmental CoordinatorMahbub
 Hussain, U.S. Navy. September 29February 20.
- EPA. 2014b. Final Remedial Action Completion Report (RACR) for Soil Hotspot Locations at Parcels B, D-1, and G and Soil Stockpiles at Parcels D-1 and G, dated October 7, 2011, and Addendum One to this RACR, dated April 4, 2014. Letter from Angeles Herrera, Assistant Director, Federal Facilities and Site Cleanup Branch, EPA to Thomas Macchiarella, Acting BRAC Environmental Coordinator, U.S. Navy. September 30.
- YEI Engineers, Inc. (YEI). 1988. Utilities Technical Report, Phase 2, Volumes 1 through 9, Hunters Point Annex, San Francisco, California. December.

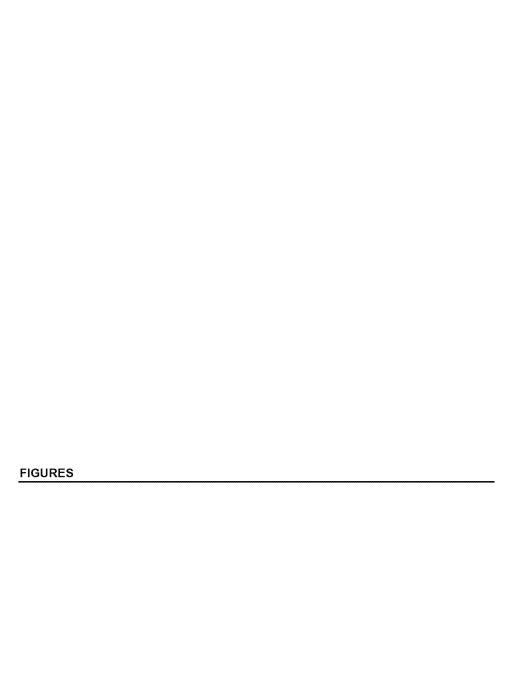


Figure 1 Hunters Point Naval Shipyard Regional Location

Figure 2 Property Location

Figure 3 Site Features

Figure 4 Restrictions

Figure 5 Petroleum Areas of Concern

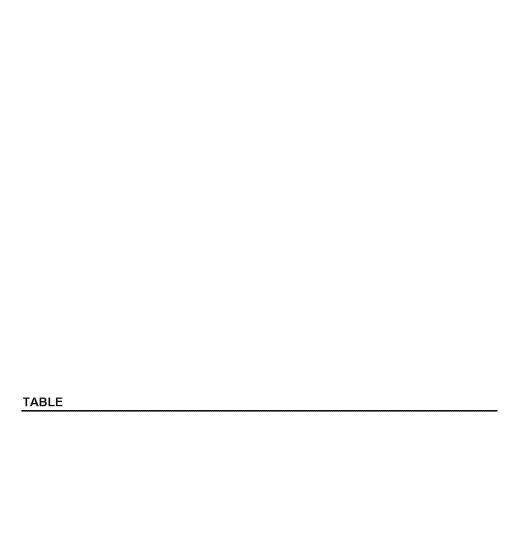


TABLE 1: ENVIRONMENTAL REQUIREMENTS

Finding of Suitability to Transfer for Parcel G Hunters Point Naval Shipyard, San Francisco, California

	Environmental Requirements							
Applicable to the Parcel	Presence of Hazardous Substances	CERCLA	Presence of Petroleum Products and Derivatives	UST and AST	Munitions and Explosives of Concern	Asbestos- Containing Material	Lead-Based Paint	Polychlorinated Biphenyls
Parcel G	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes

Notes:

AST Aboveground storage tank

CERCLA Comprehensive Environmental Response, Compensation, and Liability Act

UST Underground storage tank

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APPENDIX A SUMMARY OF HAZARDOUS SUBSTANCES STORED, DISPOSED, OR RELEASED

APPENDIX B REGULATORY COMMENTS AND COMMENT ADJUDICATION (Not Included Until Draft Final)